

Advances in light technology have enabled commercial growers to manage both light intensity and light quality. By establishing optimal light conditions, growers can increase yield, improve crop quality and fine-tune the harvest date.



Most light recipes focus on the optimal balance of red, blue and green colours. However, recent advances in light technology have made it possible to obtain light regimes that also include natural ultraviolet (UV) wavelengths. UV-A and UV-B play a significant role in determining a plant's physiology, nutritional qualities and resistance to pests and diseases.



Growers and other stakeholders in the horticultural sector are invited to liaise with the UV-SINTEC team.

Learn about progress of this SFI-funded research project, explore opportunities for collaboration and help inform our research.



Website:

<https://www.ucc.ie/en/uvleds4crops/>

Twitter: @Plants_UCC

Contact project leader Marcel by email: m.jansen@ucc.ie

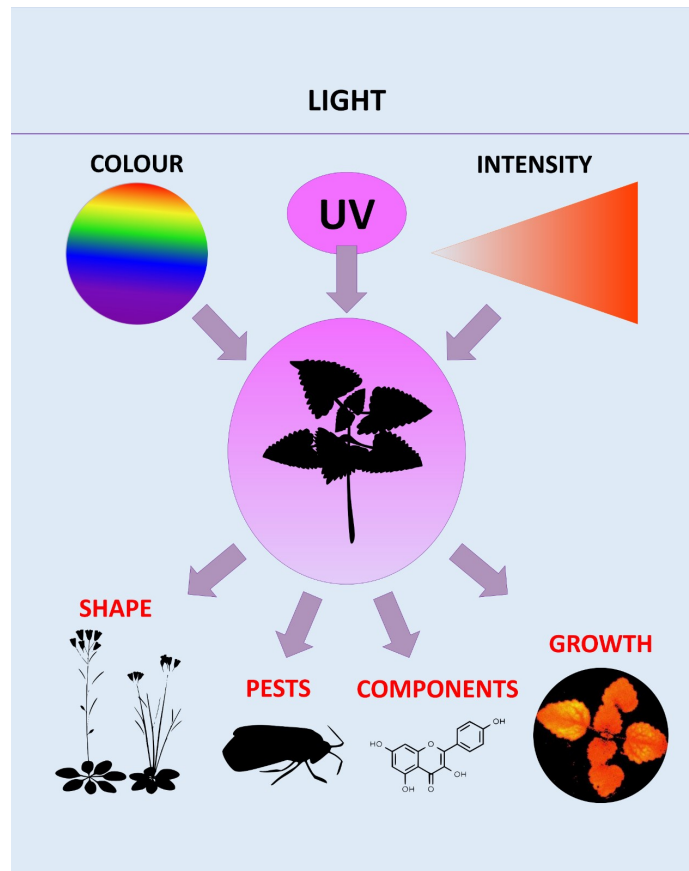


UV-SINTEC

Using UV technology to improve protected cropping



The intensity and spectral composition of light, and in particular the presence of ultraviolet (UV), have a significant effect on plants.



Additional UV irradiation in a crop's lighting regime has profound effects:

- **Plant architecture:**

UV supplementation causes development of more compact plants with increased branching and shorter petioles. Thus, UV supplementation can help avoid excessive elongation typical for winter conditions.



- **Plant robustness:**

UV supplementation causes development of plants less prone desiccation stress. Thus, UV supplementation can help delay drought stress during transport.

Our project:

Investigates how addition of UV influences plant architecture, physical quality (i.e. appearance, colour, odour and taste), nutritional properties as well as pest and disease resistance, using newly designed lamps containing UV-emitting LEDs.